Techniques of physical examination.
Inspection, palpation.

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General considerations

- You should **wash your hand in the presence of the patient** before beginning the physical examination.
- A new patient warrants a **complete examination**, regardless of chief complaint.
- The sequence of comprehensive examination should **maximize the patient’s comfort**.
- As a beginner, you should **avoid interpreting your findings for the patient**.
The comprehensive physical examination; first impressions

• **General survey**: general state of health; height, weight, **build**, sexual development, motor activity, **facial expression**, state of awareness or level of consciousness.

• **Vital signs**: blood pressure, pulse number and respiratory rate.

• **Skin**: colour, lesions. Inspection and palpation of hair and nails.
Appearance and behaviour

- **Facial expression**
  - The stare in hyperthyroidism
  - Immobile face of parkinsonism
  - Sad face of depression
  - Decreased eye contact may suggest anxiety, fear or sadness

- **Memory, attention**
  - Remote: inquire about birthdays, names of schools attended, jobs held, or past historical events.
  - Recent: Actual date? which day is today?
Graves’ disease

Ocular involvement is mediated by one or more distinct but still poorly characterised orbital-stimulating immunoglobulins: Proptosis, due to increased volume and oedema of retrobulbar fat. Shortened extraocular muscles, because of the muscle infiltration and fibrosis result in upper lid retraction. Conjunctival erythema, and periorbital oedema are evident.

Facial expression
The stare in hyperthyroidism
• **Posture and motor behaviour**
  - What is the patient’s preferred posture?
    - Preference for sitting up in left-sided heart failure
    - For leaning forward with arms braced in chronic obstructive pulmonary disease.
  - Is the patient restless or quiet?
    - Fast, frequent movements of hyperthyroidism
    - Slowed activity of hypothyroidism
  - Is there any apparent involuntary motor activity?
    - Tremor?
    - Paralysis?
The comprehensive physical examination

- **Neck**: Inspection and palpation of cervical lymph nodes. Inspection and palpation of the thyroid gland. Deviation of the trachea. Observe sound and effort of the patient’s breathing.

- **Thorax and lung**: Inspection and palpation of spine and muscles of the upper back. Inspection, palpation and percussion of chest. Identification of the level of diaphragmatic dullness. Listen to the breath sounds.

- **Breast, axillae**: Inspection and palpation of breasts. Palpation of axillary nodes.
The comprehensive physical examination

- **Cardiovascular system:**
  - Observation of jugular venous pulsation
  - Inspection, palpation and of carotid pulsation. Listen to carotid bruits
  - Palpation of the apical impulse
  - Listen to heart sounds

- **Abdomen:**
  - Inspection, palpation and percussion of the abdomen.
  - Asses the liver and spleen
  - Try to feel the kidneys
  - Palpation of abdominal aorta, and its pulsation

- **Genitalia and hernias in men:**
  - Examine the penis and scrotal contents and check for hernias
The comprehensive physical examination

• **Lower extremities:**
  – Peripheral vascular system: palpation of femoral pulses and peripheral arterial pulses. Inspection for varicose veins.
  – Palpation of inguinal lymph nodes
  – Palpation for pitting oedema
  – Musculoskeletal system: palpate the joints, check their range of motion.
  – Nervous system: Assessing of muscle bulk, tone and strength; sensation and reflexes.
The comprehensive physical examination

• **Nervous system:**
  – Mental status: orientation, mood, abnormal perceptions, memory, attention, calculating abilities.
  – Cranial nerves: check sense of smell, strength of the temporal and masseter muscles, corneal reflexes, facial movements, gag reflex.
  – Motor system: muscle bulk, tone and strength of major muscle groups.
  – Sensory system: pain, temperature, light touch, vibration, and discrimination.
  – Reflexes.

• **Additional examinations:**
  – Rectal digital examination
Inspection of tongue and region under tongue

• Thick white coat on the tongue – Candida infection.
• Smooth tongue: Loss of the papillae suggests deficiency of riboflavin, niacin, folic acid, B12 or iron.
• Leukoplakia: a persisting painless white patch in the oral mucosa. Precancerosis.
• Aphthous ulcer: painful, small, round or oval ulcer that is white or yellowish grey.
Purpose of palpation

- Examination of the body surface (skin: smoothness, dryness, irregularities etc.)
- Examination of internal organs (shape, size, consistency etc.)
- To look for abnormal resistances
- Detection of painful areas
- To feel movement of fluids within the body
Palpation; general rules

• Cut your fingernails short
• Have warm hands
  – If not, warm them by rubbings, washing in hot water or start palpating through the gown of the patient
• Use the pads of your fingers
• Use both hands
• Move them smoothly
• Palpate first lightly, than perform deep palpation
• Avoid causing pain to the patient
Palpation of the skin

- **Moisture**
  - Dryness – hypothyroidism
  - Sweating - hyperthyroidism
- **Temperature**
  - Generalized warmth in fever or hyperthyroidism
  - Local warmth of inflammation
  - Coolness in hypothyroidism
- **Mobility and turgor**
  - Lift a fold of skin and note the ease with which it lifts up (mobility- decreased in oedema)
  - The speed with which it returns into place (turgor – decreased in dehydration)
Low albumin, immobility, and venous insufficiency have lead to accumulation of fluid in lower extremity. Note residual imprint of fingers following application of pressure.
Characteristics of palpable mass

- **Size:**
  - head of the pin, pepper, bean, peanut, green nut, apple, fist of child or of an adult, head of a child or of an adult etc.

- **Surface:**
  - Smooth, nodular (micro/macro), lobulated, irregular

- **Consistency:**
  - Soft, glandular, rubbery, firm, hard (like cartilage, wood, stone), fluctuating
Characteristics of palpable mass

• **Mobility**
  – Freely moving (movable, shifting), attached to skin or underlying tissue, matted together (lymph nodes)

• **Other palpable characteristics**
  – Pulsation
  – Resonance
  – Tenderness
  – Bruise
**Palpation of lymph nodes**

• Using the pads of your index and middle fingers, move the skin over the underlying tissues in each area
  – The patient should be relaxed, with neck flexed slightly forward and slightly toward the side being examined.
  – Note the **size, shape, mobility, consistency and any tenderness**. Small, mobile, discrete, non tender nodes are frequently found in normal persons.
    • Tender nodes suggest inflammation
    • Hard or fixed nodes suggest malignancy